

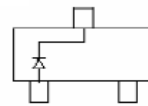
Small Signal Product
Surface Mount Zener Diode
FEATURES

- Zener voltages from : 2.4V - 39V
- Planar die construction
- Ideally suited for automated assembly processes
- Moisture sensitivity : Level 1 per J-STD-020


SOT-23

MECHANICAL DATA

- Case : SOT-23, molding plastic
- Case material - UL flammability rating 94V-0
- Polarity : See diagram
- Lead free plating
- Marking : Marking code
- Weight : 0.008 g (approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P_D	300	mW
Forward Voltage $I_F = 10 \text{ mA}$	V_F	0.9	V
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_J, T_{STG}	- 65 to +150	$^\circ\text{C}$

Note 1: Valid provided that device terminals are kept at ambient temperature .

Small Signal Product

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Type Number (Note 1)	Marking code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Typical Temperature Coefficient @ I_{ZT} (mV/°C)	
		$V_Z @ I_{ZT}$			I_{ZT} mA	$Z_{ZT} @ I_{ZT}$ Ohms	$Z_{ZK} @ I_{ZK}$		I_R μA	V_R V	Min	Max
		Nom	Min	Max			Ohms	mA				
BZX84C2V4	Z11	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0
BZX84C2V7	Z12	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX84C3V0	Z13	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX84C3V3	Z14	3.3	3.1	3.5	5	95	600	1.0	5.0	1.0	-3.5	0
BZX84C3V6	Z15	3.6	3.4	3.8	5	90	600	1.0	5.0	1.0	-3.5	0
BZX84C3V9	Z16	3.9	3.7	4.1	5	90	600	1.0	3.0	1.0	-3.5	0
BZX84C4V3	Z17	4.3	4.0	4.6	5	90	600	1.0	3.0	1.0	-3.5	0.0
BZX84C4V7	Z1	4.7	4.4	5.0	5	80	500	1.0	3.0	2.0	-3.5	0.2
BZX84C5V1	Z2	5.1	4.8	5.4	5	60	480	1.0	2.0	2.0	-2.7	1.2
BZX84C5V6	Z3	5.6	5.2	6.0	5	40	400	1.0	1.0	2.0	-2.0	2.5
BZX84C6V2	Z4	6.2	5.8	6.6	5	10	150	1.0	3.0	4.0	0.4	3.7
BZX84C6V8	Z5	6.8	6.4	7.2	5	15	80	1.0	2.0	4.0	1.2	4.5
BZX84C7V5	Z6	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3
BZX84C8V2	Z7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.1
BZX84C9V1	Z8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX84C10	Z9	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX84C11	Y1.	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX84C12	Y2.	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6	10.0
BZX84C13	Y3	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7	11.0
BZX84C15	Y4	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX84C16	Y5	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX84C18	Y6	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX84C20	Y7	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX84C22	Y8	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX84C24	Y9	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX84C27	Y10	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX84C30	Y11	30	28	32	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX84C33	Y12	33	31	35	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX84C36	Y13	36	34	38	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX84C39	Y14	39	37	41	2	130	350	0.5	0.1	27.3	33.4	41.2

Notes: 1. Valid provided that device terminals are kept at ambient temperature.

 2. Tested with pulses period = 5 ms, pulse width = 300 μs

 3. $f = 1\text{KHz}$

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Power Derating Curve

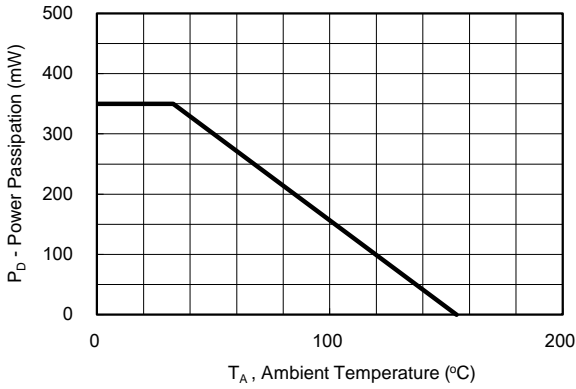


Fig. 2 Zener Breakdown Characteristics

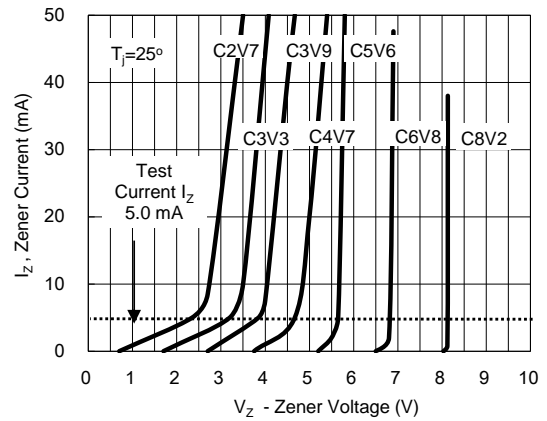


Fig. 3 Zener Breakdown Characteristics

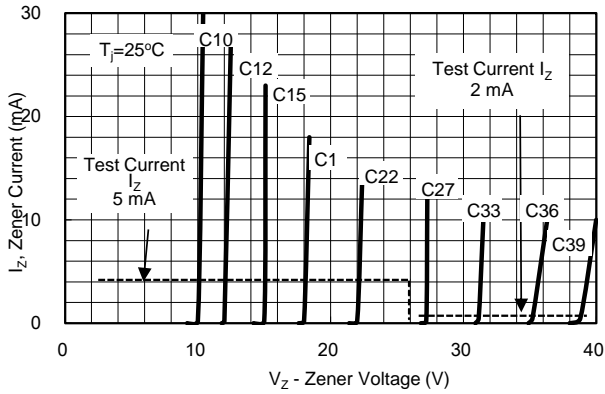
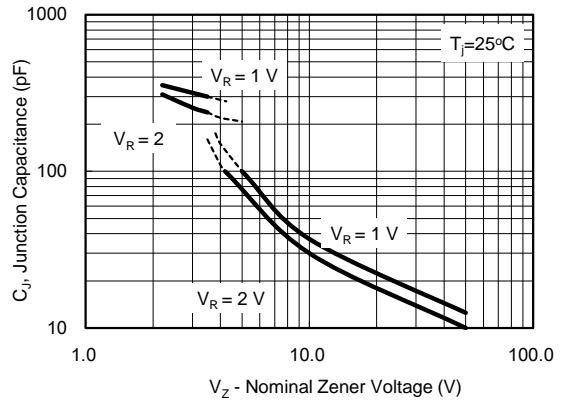


Fig. 4 Junction Capacitance VS. Nomial Zener



Small Signal Product

ORDERING INFORMATION

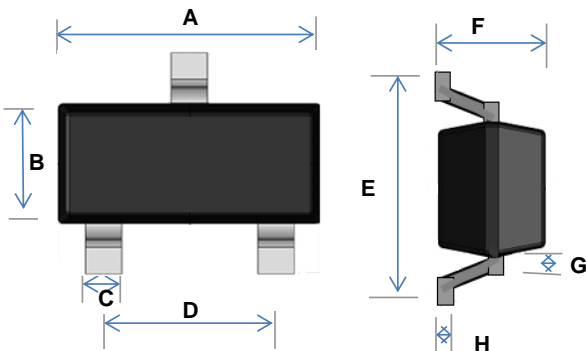
PART NO.	PACKING CODE	PACKAGE	PACKING
BZX84Cxxx (Note1)	RF	SOT-23	3K / 7" Reel

Note 1: "xxx" defines voltage from 2.4V (BZX84C2V4) to 39V (BZX84C39)

EXAMPLE

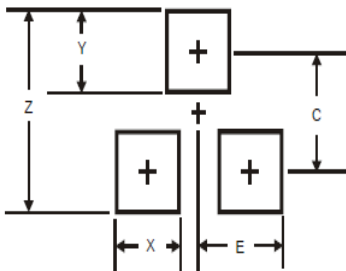
EXAMPLE P/N	PART NO.	PACKING CODE	DESCRIPTION
BZX84C39 RFG	BZX84C39	RF	Green compound

PACKAGE OUTLINE DIMENSION



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.55 REF		0.022 REF	
H	0.10 REF		0.004 REF	

SUGGEST PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
Z	2.90	0.114
X	0.80	0.031
Y	0.90	0.035
C	2.00	0.079
E	1.35	0.053

Small Signal Product

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.